Dr. Jonathan B. Ajo-Franklin

Lawrence Berkeley National Laboratory, #1 Cyclotron Rd. MS 74R0120
Berkeley, CA 94720, Ph: 510-495-2728, JBAjo-Franklin@lbl.gov

BACKGROUND

- Applied geophysics with a focus on problems related to energy and the environment.
- Expertise in seismic imaging algorithms, timelapse measurements, borehole seismology, experimental rock-physics, and synchrotron imaging techniques.

EDUCATION

Ph.D.	2005	Geophysics,	Stanford University	(Advisor Jerry M. Harris)
M.S.	2003	Geophysics,	Stanford University	(Advisor Jerry M. Harris)
B.A.	1998	Computer Science & History,	Rice University	

PROFESSIONAL POSITIONS

2013 - present	Staff Scientist,	Lawrence Berkeley National Laboratory
2007 - 2013	Research Scientist,	Lawrence Berkeley National Laboratory
2005 - 2007	Post-Doctoral Fellow,	Earth Resources Laboratory, MIT, (Advisor M. Nafi Toksoz)

JOURNAL PUBLICATIONS

1. Dou, S. and **J.B. Ajo-Franklin**, "Full-wavefield inversion of surface waves for mapping embedded low-velocity zones in permafrost", Accepted to *Geophysics,* in revision, Nov. 2013.
2. Li, L., V. Surasani, **J. Ajo-Franklin**, C. Hubbard, S. Hubbard, Y. Wu, 2013, "Reactive Transport Modeling of Selective Bioclogging by *L. mesenteroides* at the Reservoir Scale", *Energy & Fuels,* Vol. 27, No. 11, pp. 6538-6551.
3. Kwon, T.L., and **J.B. Ajo-Franklin**, 2013, "High-frequency seismic response during permeability reduction due to biopolymer clogging in unconsolidated porous media", *Geophysics*, Vol. 78, No. 6, pp. EN117-EN127.
4. Daley, T.M., B.M. Friefeld, **J. Ajo-Franklin**, S. Dou, R. Pevzner, V. Shulakova, S. Kashikar, D. Miller, J. Goetz, J. Henninges, and S. Lueth, 2013, "Field testing of fiber-optic distributed acoustic sensing (DAS) for subsurface seismic monitoring", *The Leading Edge*, Vol. 32, No. 6, pp. 699-706.
5. Doetsch, J., M.B. Kowalsky, C. Doughty, S. Finsterle, **J.B. Ajo-Franklin**, C.R. Carrigan, X. Yang, S. D. Hovorka, and T.M. Daley, 2013, "Constraining CO_2 Simulations by coupled modeling and inversion of ERT and gas composition data", *International Journal of Greenhouse Gas Control (IJGGC)*, 2013, Vol. 18, pp. 510-522.
6. **Ajo-Franklin,** J.B., Peterson, J., Doetsch, J., and T.M. Daley, 2013, **"**High-Resolution Characterization of a CO_2 Plume Using Crosswell Seismic Tomography : Cranfield, MS", *International Journal of Greenhouse Gas Control (IJGGC),* 2013, Vol. 18, pp. 497-509.
7. Kneafsey, T., Silin, D., and **J.B. Ajo-Franklin**, 2013, "Supercriticial CO_2 flow through a layered silica sand/calcite sand system : Experiment and modified Maximal Inscribed Spheres analysis", *International Journal of Greenhouse Gas Control (IJGGC)*, Vol. 14, pp. 141-150
8. Landrot, G., **Ajo-Franklin, J.B**., Cabrini, S., and C.I. Steefel, 2012, "Measurement of the Reactive Surface Area Relevant to CO_2 Mineralization in a Reservoir", *Chemical Geology*, Vol. 318-319, p. 113-125
9. Noiriel, C., Steefel, C.I., Yang, L., and **J.B. Ajo-Franklin**, 2012**,** "Upscaling calcium carbonate precipitation rates from pore to continuum scale", *Chemical Geology*, Vol. 318-319, p. 60-74

10. Wu, Y., **Ajo-Franklin, J.B**., Spycher, N., Hubbard, S., Zhang, G., Williams, K., Taylor, J., Fujita, Y., and R. Smith, 2011, "Geophysical monitoring and reactive transport modeling of ureolytically-driven calcium carbonate precipitation", *Geochemical Transactions*, Vol. 12, No. 7

11. Armstrong, R. and **J.B. Ajo-Franklin**, 2011, "Investigating biomineralization using synchrotron based x-ray computed microtomography", *Geophysical Research Letters*, Vol. 38, No. L08406

12. Daley, T., **Ajo-Franklin, J.B**., and C. Doughty, 2011, "Constraining the reservoir model of an injected CO_2 plume with crosswell CASSM at the Frio-II Brine Pilot", *International Journal of Greenhouse Gas Control (IJGGC)*, Vol. 5, No. 2, pp. 1022-1030.

13. Minsley, B.J., **Ajo-Franklin, J.B**., Mukhopadhyay, A. and Morgan, F.D. 2011, "Hydrogeophysical Methods for Analyzing Aquifer Storage and Recovery Systems", *Ground Water*, Vol. 49, No. 2, pp. 250-269

14. Wu, Y., Hubbard, S.S., Williams, K.H., and **Ajo-Franklin, J.B.,** 2010, **"**On the complex conductivity signatures of calcite precipitation", *JGR-Biosciences*, Vol. 115, No. G00G04

15. **Ajo-Franklin, J.B.**, 2009, "Optimal Experiment Design for Timelapse Traveltime Tomography", *Geophysics,* Vol. 74, No.4, p. Q27-Q40

16. Lu, R., Willis, R.E., Campman, X., **Ajo-Franklin, J.B**., and Toksoz, M.N. 2008, "Redatuming through a Salt Canopy and Target Oriented Salt Flank Imaging", *Geophysics,* Vol. 73, No. 3, p. S63-S71

17. Daley, T.M., Solbau, R.D., **Ajo-Franklin, J.B.,** and Benson, S.M. 2007, "Continuous Active-Source Seismic Monitoring of CO_2 Injection in a Brine Aquifer", *Geophysics,* Vol. 72, No. 5, p. A57-A61

18. **Ajo-Franklin, J.B**., Minsley, B.J., and Daley, T.M. 2007, "Applying Compactness Constraints to Differential Traveltime Tomography", *Geophysics,* Vol. 72, No. 4, p. R67-R75

19. **Ajo-Franklin, J.B**., Geller, J.T., and Harris, J.M. 2007. "The Ultrasonic Properties of Granular Media Saturated With DNAPL/Water Mixtures", *Geophysical Research Letters*, Vol. 34, No. 17, L07404

20. **Ajo-Franklin, J.B.**, Urban, J.A., and Harris, J.M. 2006. "Using Resolution-Constrained Adaptive Meshes For Traveltime Tomography", *Journal Of Seismic Exploration*, Vol.14, pp. 371-390

21. **Ajo-Franklin, J.B.**, Geller, J.T., and Harris, J.M. 2006. "A Survey Of The Geophysical Properties of Dense Chlorinated Solvents", *Journal Of Applied Geophysics*, Vol. 59, No.3, pp. 177-189

22. **Ajo-Franklin, J.B.,** Geller, J.T., and Harris, J.M. 2004. "The Dielectric Properties of Granular Media Saturated With DNAPL/Water Mixtures", *Geophysical Research Letters*, Vol. 31, No. 17, L17501

23. **Franklin, J.B.** and Harris, J.M. 2001. "A High-Order Fast Marching Scheme for the Linearized Eikonal Equation", *Journal of Computational Acoustics*, Vol.9, No.3, pp. 1095-1109

SELECTED EXTENDED ABSTRACTS

Dou, S. and **Ajo-Franklin, J.** (2012), "Seismic Surface Wave Investigations of Deep Low-Velocity Zones in Arctic Coastal Permafrost near Barrow, Alaska", Extended abstract, to be presented at the the *SEG/AGU Cryosphere Workshop*, Boise, ID, Jan. 6^{th}-8^{th}.

Dou, S., and **Ajo-Franklin, J.** (2012), "Application of Surface-Wave Methods to Imaging Subsurface Properties in Permafrost Soils", Extended abstract presented at the *Society of Exploration Geophysics Annual Meeting 2012*, Las Vegas, NV., Nov. 4^{th}-$8^{th.}$

D.M. Ushizima, D. Parkinson, P. Nico, **J.B. Ajo-Franklin**, A. MacDowell, B. Kocar, W. Bethel, and J. Sethian (2011), "Statistical segmentation and porosity quantification of 3D x-ray microtomography", Society of Photo-Optical Instrumentation Engineers (SPIE).

Kwon, T.H. and **J.B. Ajo-Franklin** (2011), "Seismic monitoring of permeability reduction due to biopolymer formation in unconsolidated materials", *Society of Exploration Geophysicists Annual Meeting 2011*

Ajo-Franklin, J.B., T.M. Daley, B. Butler-Veytia, J. Peterson, Y. Wu, B. Kelley, and S. Hubbard (2011), "Multi-level continuous active source seismic monitoring (ML-CASSM) : Mapping shallow hydrofracture evolution at a TCE contaminated site", *Society of Exploration Geophysicists Annual Meeting 2011*, [Selected as *Best Paper* from Conference]

Hovorka, S.D., T.A. Meckel, R.H. Trevino, J. Lu, J-P. Nicot, J.W. Choi, D. Freeman, P. Cook, T.M. Daley, **J.B. Ajo-Franklin**, B.M. Freifeld, C. Doughty, C.R. Carrigan, D. La Brecque, Y.K. Kharaka, J.J. Thordsen, T.J. Phelps, C. Yang, K.D. Romanak, T. Zhang, R. M. Holt, J.S. Lindler, and R. Butsch (2011), "Monitoring a large volume CO_2 injection: Year two results from SECARB project at Denbury's Cranfield, Mississippi, USA", *Energy Procedia*, Vol. 4, 2011, pp. 3478-3485, *Proceedings of the 10th International Conference on Greenhouse Gas Control Technologies*

Silin, D., T.J. Kneafsey**, J.B. Ajo-Franklin**, and P. Nico (2011), "A Multimodal Imaging Study of Natural Gas Flow in Tight Sands," *SPE Annual Technical Conference and Exhibition*, to appear Oct. 2011

Daley, T.M., **Ajo-Franklin, J.B**., and C. Doughty (2008), "Integration of crosswell CASSM (Continuous Active Source Seismic Monitoring) and flow modeling for imaging of a CO2 plume in a brine aquifer", *78th Ann. Internat. Mtg. Soc. Of Expl. Geophys. (SEG).*

Zhang, Y., **Ajo-Franklin, J.B.,** and M.N. Toksoz (2007), "Relative particle motions of fluid and solid phases in porous media: A numerical study of seismic scattering in digitized granular models", *77th Ann. Internat. Mtg. Soc. Of Expl. Geophys. (SEG).*

Lu, R., Willis, M.E., Campman, X., **Ajo-Franklin, J.,** and M.N. Toksoz (2007), "Redatumming through a salt canopy – Another salt-flank imaging strategy", *77th Ann. Internat. Mtg. Soc. Of Expl. Geophys. (SEG).*

Ajo-Franklin, J.B., Urban, J., and Harris, J.M. (2005), "Temporal Integration of Seismic Traveltime Tomography", *75th Ann. Internat. Mtg, Soc. Of Expl. Geophys. (SEG).*

Ajo-Franklin, J.B., Geller, J.T., Majer, E.L., Peterson, J.E., Williams, K., and Harris, J.M. (2003), "Preliminary Characterization of a NAPL-Contaminated Site using Borehole Geophysical Techniques", *Symp. App. Geop. Envi. Eng. Prob. (SAGEEP), EEGS*

Franklin, J., (1997), "Minimum traveltime calculations in anisotropic media using graph theory". *67th Ann. Internat. Mtg, Soc. Of Expl. Geophys. (SEG).*

WHITE PAPERS, TECHNICAL REPORTS, & BOOK CHAPTERS

Ajo-Franklin, J., L. Anovitz, I. Bourg, A. Chialvo, D. Cole, T.W. Kim, G. Rother, G. Sposito, T. Tokunaga, L. Vlcek, and J. Wan, (2011), "Caprock Integrity in the Geologic Sequestration of Carbon Dioxide", Center for the Nanocscale Control of Geologic CO_2, Whitepaper #1

Silin, D., T.J. Kneafsey, **J.B. Ajo-Franklin**, and P. Nico (2010), "Pore-scale mechanisms of gas flow in tight sand reservoirs", Technical Report LBNL-4103E, Nov. 2010

Nico, P. S., **Ajo-Franklin, J. B**., Benson S. M., MacDowell, A., Silin, D. B., Tomutsa, L. and Wu, Y. Synchrotron X-ray Micro-Tomography and Geological CO_2 Sequestration.. In Advances in Computed Tomography for Geomaterials, GeoX 2010. Ed. Khalid .A. Alshibi and Allen H. Reed. Wiley, & Sons, Hoboken, NJ, p. 374-380, 2010, [Book Chapter]

SELECTED INVITED PRESENTATIONS

Ajo-Franklin, J.B., *"Coupled Multiphase Flow and Chemistry at the Micron Scale Research in Pore-Scale Processes Conducted at Center for Nanoscale Control of Geologic CO_2 (NCGC)"*, Feb. 2013, Invited Plenary Speaker, Montana State University (Annual Earth Science Colloquium)

Ajo-Franklin, J.B., *"Continuous Active Source Seismic Monitoring (CASSM) : Applications In Monitoring CO_2 Sequestration and Hydraulic Fracture Evolution [2 Case Studies]"*, June 2012, Invited talk at Stanford University (Environmental Fluid Mechanics and Hydrology Laboratory)

Ajo-Franklin, J.B., *"Continuous Active Source Seismic Monitoring (CASSM) : Applications In Monitoring CO_2 Sequestration and Hydraulic Fracture Evolution [2 Case Studies]"*, June 2012, Invited talk at the University of California, Berkeley (Berkeley Seismological Laboratory)

Ajo-Franklin, J.B., *"Using Synchrotron Micro Tomography for Pore-Scale Monitoring of Super-Critical CO_2 Flow : Challenges for Dynamic Datasets"*, October, 2012, Invited talk at the Advanced Light Source User Meeting (Workshop on Microtomography)

Ajo-Franklin, J.B. , *"Using Synchrotron Micro Tomography for Pore-Scale Monitoring of scCO_2 Flow and $CaCO_3$ Precipitation : Implications for Rock Physics"*, Invited Talk at the SEG Annual Meeting Workshop, San Antonio, TX, Sept. 22nd, 2011

Ajo-Franklin, J. and Daley, T., *"Using Optimal Design to Improve CO_2 Sequestration Monitoring Strategies"*, Geologic Carbon Sequestration Site Integrity : Characterization and Monitoring Workshop, Columbus OH, June. 7-8, 2010

Ajo-Franklin, J., Magnant, Z, and Daley, T.*,"Using Optimal Design to Improve CO_2 Sequestration Geophysical Monitoring Strategies"*, CO_2 Sequestration Geophysics : SEG 2009 Summer Research Workshop Banff, Canada, August 23-27, 2009

SELECTED CONFERENCE ABSTRACTS & POSTERS

Dou, S., and **Ajo-Franklin, J.** (2012), "Mapping Deep Low Velocity Zones in Alaskan Arctic Coastal Permafrost using Seismic Surface Waves", Abstract presented at *2012 Fall Meeting, American Geophysical Union*, San Francisco, CA., Dec. 2^{nd}-7^{th}.

J. Doetsch, M.B. Kowalsky, C. Doughty, S. Finsterle, **J.B. Ajo-Franklin**, X. Yang, C.R. Carrigan, and T.M. Daley (2012) "Fully coupled hydrogeophysical inversion of CO_2 migration data in a deep saline aquifer" SEG-AGU Hydrogeophysics workshop in Boise, ID, July 2012

MacDowell, A., Parkinson, D., Haboub, A., Schaible, E., Nasiatka, J., Bale, H., Ritchie, R., and **J. Ajo-Franklin** (2012), "X-ray micro-Tomography at the Advanced Light Source", SPIE

Beyer, J.H., **Ajo-Franklin, J.,** Ali, S., and Burton, E., (2011), "WESTCARB Geologic Characterization Well in Northern California's Natural Gas Province", *10th Annual Conference on Carbon Capture, Utilization, and Sequestration*, Pittsburgh, PA, May, 2012.

Daley, T.M., **J.B. Ajo-Franklin**, C. Doughty, and S. Hovorka (2011), "Seismic Monitoring at SECARB's Phase-III Cranfield Site – Initial Results", *10^{th} Annual Conference on Carbon Capture and Sequestration*, Pittsburgh, PA, May, 2011.

Ajo-Franklin, J., Daley, T., Butler-Veytia, B., Peterson, J.E., Gasperikova, E., Wu, Y., Kelley, B., and S. Hubbard, (2011), "Acquisition and integrated inversion of a continuous active source seismic monitoring (CASSM) dataset : Application to shallow hydrofracture evolution", Abstract H52C-03, presented at *2011 Fall Meeting, American Geophysical Union*, San Francisco, Calif., 5-9 Dec.

Daley, T.M., **Ajo-Franklin, J.B.,** and F. Niu, (2011), "Recent Results from Crosswell CASSM (Continuous Active-Source Seismic Monitoring)", Abstract T51I-04, presented at *2011 Fall Meeting, American Geophysical Union*, San Francisco, Calif., 5-9 Dec.

Freedman, A.J., Peet, K.C., **Ajo-Franklin, J.B**., Ajo-Franklin, C., Cappuccio, J.A., and J.R. Thompson (2011), "Characterization of microbe-mineral interaction under supercritical CO_2: Possible roles for bacteria during geologic carbon sequestration", Abstract B51J-0546, presented at *2011 Fall Meeting, American Geophysical Union*, San Francisco, Calif., 5-9 Dec.

Kowalsky, M.B., Commer, M., **Ajo-Franklin, J.B**., Doughty. C., Daley, T.M., and S. Finsterle, (2012), "Feasibility of coupled hydrogeophysical inversion for characterization and monitoring of subsurface CO_2 injection", Abstract H42F-02, presented at *2011 Fall Meeting, American Geophysical Union*, San Francisco, Calif., 5-9 Dec. (invited)

Steefel, C., Yang, L., Noiriel, C.N., and **J.B. Ajo-Franklin**, (2011), Upscaling Carbonate Precipitation associated with CO_2 Sequestration from Pore to Continuuum Scale, Abstract H53L-03, presented *at 2011 Fall Meeting, American Geophysical Union*, San Francisco, Calif., 5-9 Dec. (invited)

Ajo-Franklin, J.B., T.M. Daley, B. Butler-Veytia, J. Peterson, E. Gasperikova, and S.S. Hubbard (2010),

"Multi-level continuous active source seismic monitoring (ML-CASSM): Application to shallow hydrofracture monitoring", Abstract NS44A-04 presented at *2010 Fall Meeting, American Geophysical Union*, San Francisco, CA, Dec. 13-17.

Noiriel, C., L. Yang, **J. Ajo-Franklin**, and C. Steefel, (2010), "Impact of carbonate precipitation on flow and reactive transport in porous media", Abstract H13B-0961 presented at *2010 Fall Meeting, American Geophysical Union*, San Francisco, CA, Dec. 13-17.

Silin, D., **J.B. Ajo-Franklin**, S. Cabrini, T.J. Kneafsey, A. MacDowell, P.S. Nico, and V. Radmilovic (2010), "Pore-scale studies of gas shale", Abstract MR22C-03 presented at *2010 Fall Meeting, American Geophysical Union*, San Francisco, CA, Dec. 13-17.

Wu, Y., S.S. Hubbard, **J.B. Ajo-Franklin**, and K.H. Williams (2010), "Pore fluid chemistry and spectral induced polarization signatures of calcium carbonate", Abstract NS33A-06 presented at *2010 Fall Meeting, American Geophysical Union*, San Francisco, CA, Dec. 13-17.

Molins, S., **J.B. Ajo-Franklin**, R.T. Armstrong, P.S. Nico, and D. Silin (2010), "Biogeochemically-driven evolution of pore structures and flow paths: experimental studies and modeling", Abstract H14D-1110 presented at *2010 Fall Meeting, American Geophysical Union*, San Francisco, CA, Dec. 13-17.

Steefel, C., C.N. Noiriel, L. Yang, D. Trebotich, S. Molins, and **J.B. Ajo-Franklin** (2010), "Integrating Experiments, Characterization, and Modeling to Understand Carbonate Precipitation at the Pore Scale", Abstract H11K-03 presented at *2010 Fall Meeting, American Geophysical Union*, San Francisco, CA, Dec. 13-17 [invited].

Meckel, T., Hovorka, S. D., **Ajo-Franklin, J.**, and Reiter, D., 2010, "Downhole passive microseismic observations during continuous CO2 injection at Cranfield, Mississippi" (abs.): *American Association of Petroleum Geologists Annual Convention & Exhibition*, v. 19, p. 169.

Daley, T.M., Majer, E., Hoversten, M., Gritto, R. and **Ajo-Franklin, J**., 2010, "Borehole Seismic Monitoring of Sequestration Pilots", *Geologic Carbon Sequestration Site Integrity: Characterization and Monitoring Workshop*, Columbus, Ohio, June 7-8, 2010.

Silin, D., Kneafsey, T., **Ajo-Franklin, J.**, and Nico, P. 2010, "Three-Dimensional Imaging of Tight Gas Host Rock – Observations and Conceptual Models". *Goldschmidt 2010 Conference*, Knoxville, TN, June 13-18, 2010.

Wu, Y., Ajo-Franklin, J., Armstrong, R., and Hubbard S.S., 2010, Noninvasive Geophysical Imaging of Ureolytic $CaCO_3$ Precipitation, *Goldschmidt 2010 Conference*, Knoxville, TN, June 13-18, 2010.

Ajo-Franklin, J., Magnant, Z, and Daley, T. 2009, "Using Optimal Design to Improve CO2 Sequestration Geophysical Monitoring Strategies", *CO_2 Sequestration Geophysics : SEG 2009 Summer Research Workshop,* Banff, Canada, August 23-27, 2009

Armstrong, R.T. and **Ajo-Franklin J.B**., 2009, Probing the Dynamics of Biomineralization at the Pore Scale Using X-ray Computed Tomography, Eos Trans. AGU, 90(52), Fall Meet. Suppl., Abstract H13C-0976

Silin, D**.,. Ajo Franklin, J. B**., Cabrini, S., Kneafsey, T. J., MacDowell, A. Nico, P. S., and Tomutsa, L., 2009, Pore-scale studies of unconventional reservoir rocks. Eos Trans. AGU, 90(52), Fall Meet. Suppl., Abstract H23F-1018, 2009

Wu, Y., Hubbards, S.S., Williams, K.H., and **Ajo-Franklin J.B.,** 2009, Complex conductivity signatures of CaCO3 precipitation and its mixture with FeS, Eos Trans. AGU, 90(52), Fall Meet. Suppl., Abstract H43C-1042

Hubbard, S.S., Wu, Y., Chen, J., **Ajo-Franklin, J.B.,** Li, L., Tugulus, C., and Williams, K.H., 2009, Assessing Feedbacks between Remediation-Induced Biogeochemical Transformations and Flow Characteristics using Multi-Scale Geophysical Approaches,
Eos Trans. AGU, 90(52), Fall Meet. Suppl., Abstract H53J-02

Daley, T.M., Niu, F., **Ajo-Franklin, J.B**., Solbau, R., Silver, P.G., 2009, Crosswell CASSM (Continuous Active-Source Seismic Monitoring): Recent Developments, Eos Trans. AGU, 90(52), Fall Meet. Suppl., Abstract NG22A-06,

Ajo-Franklin, J.B., MacDowell, A., and Nico, P.S., 2009, "Evolution of Pore Structures and Flowpath Challenge: Dynamic Synchrotron Imaging of Pore Structure Evolution", ERSP PI Meeting, Lansdowne, Va, April 20-23, 2009

Ajo-Franklin, J., Wu, Y., Hubbard, S.S., and Nico, P, 2008, Using Synchrotron Micro-CT To Monitor Microbially-Induced Calcite Precipitation on the Pore Scale, AGU Biogeophysics Chapman Conference, Portland, ME, Oct. 13-16, 2008

Wu, Y., **Ajo-Franklin, J.,** Williams, K., Hubbard, S.S., 2008, Geoelectrical signatures from ureolytically driven calcite precipitation processes---- Part I: low level precipitation and role of ion exchange, AGU Biogeophysics Chapman Conference, Portland, ME, Oct. 13-16, 2008

Daley, T.M., Sherlock, D., Freifeld, B., **Ajo-Franklin, J**., and Sharma, S., 2008, "Monitoring of CO2 Sequestration in a Depleted Gas Reservoir: The Otway Project", SEG/EAGE Summer Research Workshop, Vancouver, September

AWARDS AND FELLOWSHIPS

Best Paper Award, SEG Annual Meeting (2011)
Founding Member Fellow, Earth Resources Laboratory, MIT (2005-2007)
Chair's Fellowship for Intergroup Research, Stanford (2002-2003)
EPA STAR Fellow (2001-2004)
Samuel P. Worden Award For Geophysical Research, Rice University, (1997)

PROFESSIONAL ACTIVITIES

Associate Editor for *Geophysics* (2011 - present)
Special Editor for *Geophysics* (2009 – 2011)

AGU Near-Surface Geophysics Focus Group, Executive Committee Member
AGU Hydrogeophysics Technical Committee, Member
Reviewer for : *Geophysics*, *Geophysical Research Letters*, *Geophysical Journal International*
Member of SEG, AGU (Near-Surface Focus Group)

RECENT FUNDED PROPOSALS (EXTERNAL)

"Developing Smart Infrastructure for a Changing Arctic Environment using Distributed Fiber-Optic Sensing Methods", Lead PI, $667K/yr, 2014-2018 (DOD, SERDP)

"Geophysical Characterization of Microbial Activity in Reservoir Rocks for Enhanced Hydrocarbon Recovery" Lead PI, $330K/yr, 2009-2011 (WFO, Energy Biosence Institute)

"Geophysical Imaging for Investigating the Delivery and Distribution of Amendments in the Heterogeneous Subsurface of the FE. Warren AFB", Co-PI with S. Hubbard, $414k/yr, 2008-2012 (DOD/ESTCP)

"Next-Generation Ecosystem Experiment - Arctic", DOE BER, Co-I (Stan Wullshager, Lead PI), Task Budget, $110k/yr, 2012-2014

"Center for the Nanonscale Control of Geologic CO_2", Theme Leader (D. DePaulo, Lead PI), Task Budget $220k/yr, 2008-2013

"Crosswell EM System Development Project", PI. $80K/yr 2012-2013 (WFO, Advanced Energy Consortium)

FUNDED PROPOSALS (INTERNAL)

Integrative mapping of soil heterogeneity at the microbial scale. [Lead PI, Eoin Brodie] Co-PI, Jonathan Ajo-Franklin (2012-204).

X-ray Fluorescence Tomography – 3D elemental mapping. [Lead PI , Alastair MacDowell] Co-PI Jonathan Ajo-Franklin (2011-2013)

APPROVED USER FACILITY PROPOSALS

1. Advanced Light Source (LBNL), Beamline 8.3.2, Approved Program Co-PI (w. P. Nico and C. Steefel), 60 shifts/yr, 2009-2013.
2. High Flux Isotope Reactor (ORNL), Beamline CG1-D, Approved Proposal, LPI (w. L. Anovitz), 6 shifts, 2012
3. National Energy Research Science Computing Center (LBNL), Production Run 86249 (2013), 100,000 core hours. "Rock Properties for $scCO_2$ Transport and Reactions in Geological Systems : Image Processing and Modeling" (LPI)
4. National Energy Research Science Computing Center (LBNL), Production Run 87125 (2014), 250,000 core hours. "Rock Properties for $scCO_2$ Transport and Reactions in Geological Systems : Image Processing and Modeling" (LPI)
5. Molecular Foundry, User Proposal #1671, " Continued nanometer-scale studies of shales for carbon sequestration and gas recovery (Co-PI w. T. Kneafsey)
6. Molecular Foundry, User Proposal #906, "Investigation of nano-to-micron scale $CaCO_3$ bioprecipitates : morphology and properties". (LPI)
7. Molecular Foundry, User Proposal #744, "Petrophysical studies of unconventional gas reservoirs using high-resolution rock imaging" (Co-PI w. D. Silin)

ADVISED STUDENTS & POSTDOCTORAL FELLOWS

Zhuojun Magnant, PhD. Student, Emory University (Computer Science), June. 2009 – 2010,
Research topic : experiment design methods applied to sparse array optimization,

Currently Asst. Prof., Georgia Southern University

Ryan Armstrong, PhD. Student, Oregon State University, June 2009 – Jan. 2010
Research topic : Synchrotron imaging of microbial precipitation and growth processes in porous materials.
Currently postdoctoral research fellow, Shell Research, Rijswick

Tae-Hyuk Kwon, Post Doctoral Scientist, LBNL, 2009 – 2011
Research topic : Geophysical monitoring of microbially-enhanced oil recovery,
Currently Asst. Prof., Washington State University, Pullman

Shan Dou, PhD Student, University of California, Berkeley (EPS), 2011-present
Research topic : Seismic investigation of permafrost properties

Seth Saltiel, PhD Student, University of California, Berkeley (EPS), 2012-present
Research topic : Seismic signature of dissolution processes in carbonates

Marco Voltolini, Post Doctoral Scientist, LBNL, 2012-present
Research topic : Synchrotron imaging of $scCO_2$ flow and reactions in reservoir sandstones

David Tang, M.S. Student, University of California, Berkeley (CEE), 2012-present
Research topic : Seismic monitoring of $scCO_2$ injection at the King Island test site

Bridget Floyd, Undergraduate Researcher, University of California, Berkeley (EPS), 2012-2013

Ruxun Zhang, Undergraduate Researcher, University of California, Berkeley (EPS), 2013-present

METRICS

23 Peer-reviewed Journal Publications, 19 since 2007
365 citations, 330 since 2007 (*Google Scholar*)
H Factor = 12 (*Google Scholar*)
i-10 index = 13 (*Google Scholar*)

LABORATORY & DIVISIONAL SERVICE

ESD Divisional Capital Equipment Committee (2010-present)
ESD Distinguished Seminar Series Committee (2010-present)
ESD B74 Move Committee, Geophysics Representative (2012-2013)
LBNL Open House (2011-2012)
SAC Committee Member for EETD EHS Review (2012)
SAC Sub-Committee Member for Safety Assurance (2014)
SAC Sub-Committee Member for Pressure Safety (2014)

RECENT FIELD RESEARCH PROJECTS

Frio II Brine Sequestration Pilot (Liberty, TX, S. Hovorka PI)
SECARB Stacked Storage Test, Phase III (Cranfield, MS, S. Hovorka PI)
Warren AFB Hydraulic Fracture Pilot (Cheyenne, WY, J. Ajo-Franklin & S. Hubbard)
WESTCARB Sacremento Basin Characterization Project (J.H. Beyer PI)
Kevin Dome Large Scale Storage Test, Big Sky Partnership (Kevin Dome, MT, L. Spengler, PI)